NOTES ON NORTH AMERICAN TREES. VIII[1]

C. S. SARGENT

Robinia Pseudoacacia L. in Illinois and Indiana.

Illinois is one of the states in which the Black Locust has usually been considered to have been naturalized and not indigenous. The elder Michaux, however, included it in the list of plants which he collected "au long du Mississippi" on October 9, 1795 (see Journal of André Michaux, 1787–96, p. 124). On the previous day Michaux had arrived "au Fort Cheroquis autrement nommé par les Americains Fort Massac." This was on the Ohio River in Massac County, Illinois, in what is now a State Park and the nearest point to Fort Massac on the Mississippi River is in what is now Alexander County, Illinois, a considerable distance to have been covered at that time in one day. In commenting on Michaux's discovery of the Robinia in southern Illinois Dr. Robert Ridgway, the distinguished ornithologist, who for many years has studied the trees of southern Illinois, writes, — "Now at the time of Michaux's visit it is impossible that any tree could have been established there through naturalization. There were no white inhabitants in the country except a few French (mostly hunters and traders) at Kaskaskia and at a very few other places, and these came from the north where Robinia does not grow. The Black Locust is common in the hilly district (Ozark Uplift) of the southern counties and I have no doubt it is indigenous there. In other parts of southern Illinois, however, it is unquestionably an introduced and naturalized species, having been planted by the early settlers from Kentucky, Ohio, etc., about their homes. Even now it is rarely if ever seen in the woods except in the Ozark region where it grows intermingled with other forest trees."

It is probable, too, that the Black Locust was indigenous in southwestern Indiana as it was included in the list of "vegetables growing indigenously near the Wabash, between Vincennes and Fort Harrison," seen by David Thomas in 1816 and printed on pp. 222–24 of his Travels through the Western Country in the summer of 1816.

Robinia neomexicana A. Gray. Gray based his description of this plant on a specimen collected in May, 1851, on "dry hills on the Membres" by Dr. George Thurber. The leaflets are oblong-elliptic and acute, and are finely pubescent below. The petiole and rachis of the leaves are pubescent and partially covered with slender minutely glandular hairs which are more abundant on the calyx of the flower. The fruit has not been collected apparently at the type station, but a cluster of pods collected by H. H. Rusby in 1881 at Mangos Springs in the same locality shows that it is slightly stellate-pubescent and entirely destitute of the stout glandular-hispid hairs which have been ascribed to it and

[1] For part VII see p. 112.

which are found in the Colorado Robinia. A specimen collected by Miss Eastwood on May 11, 1919, at Fort Bayard in New Mexico near the type station, has the elliptic acute leaflets of the specimen collected by Dr. Thurber, but the short hairs which are mixed through the inflorescence are nearly destitute of glands. On a specimen of a vigorous shoot collected by A. Rehder (No. 446) in Fresnal Canyon, Sacramento Mountains, New Mexico, on August 26, 1916, the leaflets vary from broad-ovate to oval and are rounded, occasionally acute and distinctly apiculate at apex. In its pubescence this specimen is similar to that of another specimen (No. 389) collected by Rehder a few days earlier at Cloudcroft on the Sacramento Mountains which has the elliptic leaves of the type. Rehder's No. 446, which is probably only an abnormal vigorous shoot of *R. neomexicana*, agrees in the shape of the leaflets and in their pubescence with the description of *R. Rusbyi* Wooton & Standley (Contrib. U. S. Nat. Herb. XVI. 140 [1913]). Judging by the material I have seen, *R. neomexicana* is a rare and local plant confined to Grant and probably Socorra Counties in southwestern New Mexico; it appears to be always a shrub in habit.

The plant which has for many years been considered to be *Robinia neomexicana* A. Gray (see Sargent's Silva N. Am. III. 43, t. xiv.) differs from the type in the shape of its leaflets which vary from oval with a rounded apex to oblong-ovate with an acute apex and occasionally to elliptic. It differs also in the stout glandular hairs which cover the inflorescence, the young branches and the fruit. Some of the specimens of this form look very distinct from the type of *R. neomexicana*, but specimens like the one collected in May, 1890, by M. E. Jones on the Pinal Mountains, Arizona, with oval leaflets rounded at apex and with the inflorescence and young branchlets nearly destitute of glandular hairs connect the extreme forms, and it does not seem possible to distinguish specifically the two Robinias of the southwestern United States. If this view is accepted the glandular plant becomes *Robinia neomexicana* var. *luxuriana* (Dieck in Gard. Chron. ser. 3, XII. 669 [1892]). This form, which is occasionally a tree from 20–25 feet in height, is widely distributed from the valley of the Cuchura River from Walsenburg to above La Veta, Huerfano County, and of the Purgatory River near Trinidad, Las Animas County, southern Colorado, through New Mexico to the mountain ranges of southern Arizona and northward to southwestern Utah (near Kanab, Kane County, and in Mt. Zion Cañon of the west fork of the Rio Virgen). Mr. D. M. Andrews informs me that it has escaped from cultivation and become naturalized near Colorado towns in the eastern foothill region as far north as Denver. This variety was introduced by the Arboretum into the gardens of the eastern United States and Europe in 1882 from Colorado, and is probably the only form which has been cultivated as *Robinia neomexicana*, the plant described by Gray is still unknown in gardens.

Byrsonima lucida De Candolle, Prodr. i. 530 (1824). — *Malpighia lucida* Miller, Dict. ed. 8, No. 9 (1768). — Swartz, Prodr. 74 (1788). — *Malpighia cuneata* Turczaninow in Bull. Soc. Nat. Mosc. xxxi. pt. i. 390 (1858). — *Byrsonima cuneata* P. Wilson in Bull. N. Y. Bot. Gard. viii. 394 (1917). — Britton & Millspaugh, Bahama Fl. 205 (1920).

The recent change in the name of this plant appears to be due to the fact that a curious error made by Miller had been overlooked. The technical description of his *Malpighia* (*lucida*) No. 9 clearly refers to our Florida plant, but in his notes on the different species Miller transposed his Nos. 8 and 9, describing under his "eighth sort" No. 9, *Malpighia lucida*, and under his "ninth sort," No. 8, *Malpighia illicifolia*. As the species is based on the technical description and not on the notes there seems to be no reason for changing *Byrsonima lucida* DC. to *Byrsonima cuneata* P. Wilson.

Cyrilla racemiflora var. **parvifolia**, n. var. — *Cyrilla parvifolia* Shuttl. apud Small in Bull. Torrey Bot. Club, xxiii. 101 (1896).

This shrub from the west Florida coast differs from *C. racemiflora* L. in its smaller size, smaller leaves and shorter racemes, and affords no morphological characters by which it can be distinguished specifically from that species. The fruit which has been described as globose is ovoid on the specimens which I have seen.

Acer glabrum f. **trisectum**, n. nom.—*Acer glabrum* var. *tripartitum* Pax in Engler Bot. Jahrb. vii. 218 (1886), not *Acer tripartitum* Nuttall in Torrey & Gray, Fl. N. Am. i. 247 (1838); and N. Am. Sylva, ii. 85 (1846).

This new name is suggested for the form of *Acer glabrum* Torrey with 3-parted or 3-foliolate leaves, as the name *tripartitum* which has been used for this form of *Acer glabrum* belongs to a little alpine species which Nuttall found in "the Rocky Mountain Range in about latitude 40 within the line of Upper California." This species differs from *Acer glabrum* in the small 3-lobed leaves which are not more than 2.5–3 cm. in diameter and which so far as I have seen them are never 3-foliolate, in the smaller flowers, fruit with the wing not more than 1 cm. long, and in the pale gray not red-brown young branchlets.

The specimens in this herbarium are from the Big Horn Mountains of Wyoming and from those of Utah and Nevada.

Acer nigrum var. **Palmeri,** nov. var.

Differing from the type in the 3-lobed leaves with broad long-acuminate nearly entire terminal lobes and in their rounded or slightly cordate base.

ILLINOIS. Johnson County, Tunnel Hill in a single grove, *E. J. Palmer* (No. 15177), May 17, 1919, (No. 16678 and No. 16679 type), October 4, 1919.

INDIANA. Lawrence County, *C. C. Deam* (No. 17299), July 13, 1915. Putnam County, *C. C. Deam* (No. 17574), July 18, 1915. Shelby County, *C. C. Deam* (No. 30258), September 27, 1919.

MISSOURI. Jackson County, Atherton, *B. F. Bush* (No. 1764), August, 1 1902. Clark County, Wayland, *B. F. Bush* (No. 625), August 21, 1911. Dunklin County, Campbell, *C. S. Sargent*, October 3, 1910.

Vaccinium arborescens var. **glaucescens**, n. var. — *Batodendron glaucescens* Greene in Pittonia, III. 326 (1898).

Differing from the type in its glaucescent leaves, in its usually larger leaf-like bracts of the inflorescence, and in its often globose-campanulate corolla.

The leaves are distinctly and constantly glaucescent, but on many plants with such leaves the inflorescence bracts are not larger than those on *V. arborescens* Marsh. and flowers with the open oblong corolla of *V. arborescens* occur. There is no difference in the habit, bark and buds of the two forms which often grow within a few feet of each other. The type of *Batodendron glaucescens* was collected by B. F. Bush on May 18, 1895, at Sapulpa, Creek County, Oklahoma (No. 1273). The leaves, petioles and young branchlets are pubescent, and the under side of the midrib of the leaves is covered with villose hairs; on other specimens with glaucescent leaves the pubescence is confined to the under side of the midrib of the leaves, and others are quite glabrous. I have seen specimens of the glaucescent leafed variety from:

ILLINOIS. Johnson County, Tunnel Hill, *B. F. Bush* (No. 6903), October 8, 1912; *E. J. Palmer* (No. 15191), May 7, 1919. Pope County, Golconda, *E. J. Palmer* (No. 15439), June 7, 1919.

KENTUCKY. Ohio County, Echols, *E. J. Palmer* (No. 17775), June 2, 1920. Logan County, Russelville, *E. J. Palmer* (No. 17761), June 5, 1920.

MISSOURI. Iron County, Ironton, *E. J. Palmer* (No. 18100), June 27, 1920. Dunklin County: Campbell, *C. S. Sargent*, October 3, 1910; Malden, *B. F. Bush* (No. 6392), October 8, 1910. Shannon County, Monteer, *B. F. Bush* (No. 3590), October 8, 1905. McDonald County, Noel, *B. F. Bush* (No. 5040), August 9, 1908, (No. 5739), May 26, 1908; *E. J. Palmer* (No. 5501), May 5, 1914.

ARKANSAS. Arkansas County, Arkansas Post, *J. D. Kellogg*, September 25, 1909. Hempstead County, Fulton, *B. F. Bush* (No. 215), May 12, 1900, (No. 2380), April 17, 1905, (No. 3799), November 6, 1905, (No. 5540), April 29, 1909, (No. 5664), May 20, 1909, (No. 5957), October 5, 1909; *E. J. Palmer* (No. 5843), October 15, 1915.

OKLAHOMA. Creek County, Sapulpa, *B. F. Bush* (No. 470), July 30, 1894 (No. 1273), May 18, 1895 (type).

LOUISIANA. Caddo Parish, Shreveport, *R. S. Cocks*, April 1, 1910.

TEXAS. Walker County, Huntsville, *E. J. Palmer* (No. 13372), April 18, 1918. Harrison County, Marshall, *E. J. Palmer* (No. 5294), April 18, 1914. Cherokee County, Larissa, *B. F. Bush* (No. 5545), April 30, 1909, (No. 5975), October 7, 1909. Milan County, Milan, *E. J. Palmer* (No. 11666), April 24, 1917.

Bumelia lanuginosa Pers.

The type of this species was collected in Georgia by Michaux. On all the specimens from Georgia which I have seen the pubescence on the lower surface of the leaves, especially on the midrib, on the flower-buds and their pedicels, is rusty brown, in fact all the specimens from the Atlantic and east Gulf states have this pubescence with the exception of one from North Carolina in young leaf on which the pubescence is white. It seems therefore safe to assume that the pubescence on the

typical *Bumelia lanuginosa* is rusty brown. In the coast region of eastern Texas and as far west as the region of San Antonio the lower surface of the leaves, the flower-buds, pedicels and young branchlets are covered with snow-white pubescence. This gives the tree such a different appearance from the common form that it can perhaps be well distinguished as

Bumelia lanuginosa var. **albicans,** n. var.

Differing from the type in its snow-white pubescence.

NORTH CAROLINA. New Hanover County, Wilmington, *T. G. Harbison*, April, 1919.

TEXAS. Harris County, near Houston, *E. J. Palmer* (No. 11456), April 2, 1917. Fort Bend County, Richmond, *E. J. Palmer* (No. 4943), March 14, 1914. Brazos County: Bryan, *E. J. Palmer* (No. 11730), April 30, 1917; near Neleva, *E. J. Palmer* (No. 13446), April 24, 1918. Wharton County, Wharton, *E. J. Palmer*, March 10, 1914. Brazoria County: Columbia, *B. F. Bush* (Nos. 877, 909, 1427, 1524), 1900, 1901; *E. J. Palmer* (No. 5050), March 30, 1914; Velasco, *E. J. Palmer* (No. 13131), March 21, 1918; Brazoria, *E. J. Palmer* (No. 6741), October 6, 1914. Matagorda County, on Peyton's Creek, *E. J. Palmer* (No. 9734), May 12, 1916. Victoria County, bottoms, Guadalupe River, near Victoria, *C. S. Sargent* (type), April 9, 1915; *E. J. Palmer* (No. 9104), March 7, 1916. Lampasas County, Lampasas, *C. S. Sargent*, March 21, 1911. Travis County, near Austin, *C. S. Sargent*, March 29, 1885. Wilson County, Sutherland Springs, *B. Mackensen*, October, 1910; *C. S. Sargent*, April 8, 1915; *E. J. Palmer* (No. 9209), March 17, 1916; Bexar County: near San Antonio, *B. F. Bush* (No. 802), September 16, 1901. *B. Mackensen*, December, 1909; 25 miles south of San Antonio on road to Corpus Christi, *S. B. Buckley.*

MEXICO. Nuevo Leon, near Monterey, *C. S. Sargent*, April 6, 1887.

more distinct is.

Bumelia lanuginosa var. **anomala,** n. var.

Differing from the type in its more silky silvery white pubescence occasionally slightly tinged with brown on the lower surface of the leaves, oval to broad-elliptic on vigorous shoots, in the close scanty pubescence on the pale brown pedicels and calyx, and in its white glabrous branchlets. The fruit has not been collected.

FLORIDA. Hancock County, Gainesville, *T. G. Harbison* (No. 47, type), June 17, 1917, (No. 64), July 25, 1918. Alachua County, *T. G. Harbison* (No. 97), July 20, 1919. Orange County, Orlando, *T. G. Harbison* (No. 51), November 11, 1917.

A specimen collected by T. G. Harbison (No. 61) at Gainesville, July 25, 1918, with pale brown less silky pubescence on the lower surface of the leaves, slightly villose petioles, less pubescent calyx and pedicels than those of the type, and pale not white glabrous branchlets, seems intermediate between the type and the var. *anomala* which appears so distinct that were it not for this specimen it might be considered a new species. Nos. 47 and 64 from Gainesville and No. 51 from Orlando are described by Mr. Harbison as small trees.

Diospyros virginiana var. **platycarpa,** n. var.

Differing from the type in its larger depressed globose yellow earlier ripening fruit, usually broad-ovate leaves rounded or cordate at base

and more or less densely pubescent below, especially on the midrib and petioles, and in the villose pubescence of the branchlets often persistent for two or three years.

The fruit of this variety, which is sometimes 4.5–7.5 cm. wide and 2.5 cm. high is distinct in its yellow skin and in the flesh which becomes succulent and edible without the action of frost. In what may be considered the type of the variety from Cotter, Dexter County, Arkansas (Palmer, No. 5968), the leaves are oblong-ovate, abruptly pointed and acuminate at apex, rounded or slightly cordate at base, covered above with short caducous white hairs, and villose-pubescent on the midrib and veins on the otherwise nearly glabrous lower surface, 7–10 cm. long and 5–6 cm. wide, those on vigorous shoots up to 15 cm. in length and 8 cm. in width; petioles stout, densely villose-pubescent, 1.5–2 cm. long; fruit depressed-globose, 4–7.5 cm. broad and 2.5 cm. high, with a yellow skin and sweet succulent flesh; seeds more conspicuously rounded on the dorsal side, much flattened, dark chestnut-brown, very lustrous, only slightly rugose, 1.5 cm. long and 1.2 cm. wide, branchlets densely pubescent when they first appear, becoming glabrate.

About this variety Mr. E. J. Palmer writes: "I have been much interested in the variations of the Persimmon in foliage and fruit, and extreme forms certainly look very distinct. The country people generally throughout the western Ozark region recognize two fruit forms and insist that they are very different from each other. While there is a wide variation in fruit as to size, shape and time of ripening throughout its range, the extreme form, with very large much flattened fruit, ripening from the middle of September to early October and with flesh very soft and succulent, seems to be commonest if not limited to the western slopes of the Ozarks and the adjacent prairie region in southwest Missouri, northwest Arkansas, southeast Kansas and northeast Oklahoma, at least I do not remember having seen it beyond this region. I have seen fruit of this fully three inches in transverse diameter and much flattened at both poles. The fruit is often so soft that in falling to the ground it is crushed or completely squashed when fully ripe. This large fruit is usually associated with large more or less pubescent leaves often cordate at base and turning bright yellow in early autumn. The largest fruit that I have ever seen was on a tree at Cotter, Arkansas, of which I think I sent you fruit in 1914. This was fully as large as some of the cultivated Japanese varieties. My observation on the large-fruited form is that it is usually a small tree seldom more than 4–8 m. tall and never attaining the size of trunk and height of the small-fruited variety. The fruit of the latter is seldom edible until after frost, and in some extreme forms scarcely becomes so at any time. While there is much variation and possibly a complete gradation between the two forms, the latter often has fruit of an oblong shape or longer than wide. The skin is tougher and the flesh more fibrous, and the fruit often candies on the tree, sometimes remaining on all winter."

From Missouri I have seen specimens with villose-pubescent branchlets and large leaves rounded or cordate or elliptic and cuneate at base, from Westport, Jackson County, and Hannibal, Marion County; it is a common form near Allenton, St. Louis County, and is abundant in the southern counties; in Arkansas it extends as far south as the valley of the Red River (Fulton, Hempstead County); it grows near Yazoo City, Yazoo County, and at Rockport, Copley County, Mississippi, and appears to be the prevailing form in western Louisiana, where it grows on hillsides and in deep swamps covered with water during several months of every year; and it has been noticed in swamps in the neighborhood of New Orleans. This form apparently does not extend into Texas. Specimens with villose-pubescent branchlets have been collected in Florida at Palatka, Haines City, and at Sebring by T. G. Harbison, and near Hastings by A. Rehder. I have only seen fully grown specimens of the large flat early ripening fruit from Allenton, Missouri, Cotter, Arkansas, and from a tree cultivated by Palmer at Webb City, Missouri, and am therefore unable to say if the trees with villose-pubescent branchlets and usually broad-ovate more or less pubescent leaves usually rounded or cordate at base habitually or usually produce fruit of this character, and further observations on the fruit of *Diospyros virginiana*, especially in the region west of the Mississippi River, are needed. With the exception of the specimens from Mississippi, New Orleans and Florida to which I have referred, a specimen of a young, vigorous, villose-pubescent branch with large leaves rounded at base and pubescent on the midrib below and on the petiole collected by C. E. Faxon at Virginia Beach, Virginia, and a specimen collected near New Haven, Connecticut, the northern station of this tree, with puberulous branchlets, all the specimens from the region east of the Mississippi River which I have seen have glabrous branchlets and leaves, and fruit which is depressed-globose to obovoid-oblong, usually not more than 2.5–3 cm. in diameter and, except perhaps in the extreme south, hard and astringent until after the action of frost. The seeds of the eastern tree so far as I have been able to examine them are only slightly unsymmetric, light chestnut brown and conspicuously rugose. A black-fruited form of the var. *platycarpa* may be distinguished as

Diospyros virginiana var. **platycarpa**, f. **atra**, n. f.

I have seen only the fruit of this tree, which was collected several years ago three miles southwest of Norman, Cleveland County, central Oklahoma, by Mr. Joseph Thornburn, of Oklahoma City. The fruit is rounded above, about 3.1 cm. broad and nearly 2.5 cm. high; the seeds in size, shape, dark color and lustre and in their only slightly rugose testa resemble those of the fruit of var. *platycarpa* from Cotter, Arkansas. Until more is known of this tree it seems best to consider it a form of that variety, although in shape the fruit is more like that of one of the common forms of *Diospyros virginiana*. Less distinct is

Diospyros virginiana var. **Mosieri**, n. var. — *Diospyros Mosieri* Small in Jour. N. Y. Bot. Gard. XXII. 33 (1921).

Differing from the type in the somewhat thicker dark chestnut brown lustrous and only slightly rugose seeds, smaller staminate flowers not more than 6 or 7 mm. in length, and smoother bark.

A tree or arborescent shrub up to 8 m. high, with a trunk 20–25 cm. in diameter, covered with light gray slightly fissured bark.

Florida. Dade County, near the Humbugus Prairie, west of Little River, *A. Rehder* (No. 729), April 23, 1920; Arch Creek, *A. Rehder* (No. 733), April 24, 1920; on Long Key in the Everglades, *E. A. Bessey* (No. 60), May, 1908.

The seeds which have been chiefly used to distinguish the Diospyros of southern Florida, although rather smaller, in shape, color, lustre and in their slight reticulation, resemble the seeds of the var. *platycarpa* to which, by its seeds at least, it is closely related, although the fruit in size and shape and the glabrous branchlets belong with the typical Diospyros of the eastern states.

Halesia monticola, n. sp. — *Halesia carolina* var. *monticola* Rehder in Mitt. Deutsche Dendr. Ges. xxii. 260 (1913).

From *Halesia carolina* the Mountain Halesia differs in its larger flowers and fruit, in habit and bark. *Halesia carolina* is an arborescent shrub with spreading stems, or a small tree rarely more than 8 or 9 m. high, with a short trunk rarely more than 30 cm. in diameter covered with close bark separating on the surface into small closely appressed scales; it is an inhabitant of the foothills of the southern mountains and grows down nearly to sea-level. *Halesia monticola* does not grow below altitudes of about 1000 m. on the high Carolina mountains where it is an important timber tree 25–30 m. high, with a trunk often 1 m. in diameter and free of branches for 18 or 20 m. and covered with bark which separates freely into large loose plate-like scales. It reproduces itself from seed, and seedling plants grow habitually with a single stem; and although the leaves of the lowland and the mountain trees show little difference in shape, size and pubescence, it seems desirable to consider this a distinct species. The fact that the two trees were considered identical until a few years ago accounts for the fact that the mountain tree was not cultivated until the end of the last century, although the seeds of *Halesia carolina* were sent to England as early as 1756.

The credit of the introduction of *Halesia monticola* belongs to Mr. Harlan P. Kelsey, of Salem, Massachusetts, by whom it was sent about twenty-four years ago to the parks of Rochester, New York, whence it came to the Arboretum in 1907. In cultivation *H. monticola* proves to be a valuable ornamental tree; it is perfectly hardy, grows rapidly, and begins to flower when less than 4 m. tall, and is better suited for northern gardens than the other species of the genus.

Halesia monticola var. **vestita,** n. var.

Differing from the type in the pubescent under surface of the leaves sometimes rounded at base, in the somewhat wider mouth of the corolla and smaller fruit 2.5–4 cm. long.

The unfolding leaves are pubescent above and, like the young branchlets, thickly covered below with snow-white tomentum, and the mature leaves are glabrous on the upper surface and covered below with short soft pubescence, ovate to obovate or obovate-elliptic, abruptly pointed and acuminate at apex, and cuneate or rounded at base.

The first specimens of this variety came to the Arboretum from the parks at Rochester, New York, in 1917. Plants had been obtained at Rochester in 1915 as two-year-old seedlings from the nurseries of Thomas Meehan & Son, of Germantown, Pennsylvania. These plants are growing on a slope facing the northwest in Durand-Eastman Park fully exposed to the cold winter gales blowing across Lake Erie. The plants have proved perfectly hardy there and, like *H. monticola*, have grown up with a single trunk. A specimen of what appears to be this variety, judging by the shape and pubescence of the mature leaves and the size of the fruit, was collected on the bank of a stream west of Marion, McDowell County, North Carolina, by T. G. Harbison, August 16, 1918; and it is apparently this variety which grows in low sandy woods at Heber Springs, Carroll County, Arkansas, E. J. Palmer (No. 6978), October 31, 1914.

Halesia monticola var. **vestita** f. **rosea,** n. f.

Differing from the type in the pink or pale rose-colored flowers.

Durand-Eastman Park, Rochester, New York, Dunbar and Horsey, No. 3, June 2, 1920. This is one of the Meehan seedlings.

Halesia parviflora Michx.

In the Silva of North America this plant was considered a shrub and was not described or figured. More is now known about it and it should find a place among the trees of North America. The fruit was correctly described by Michaux and Chapman, but Gray in his Synoptical Flora described it as 2-winged. Gray's description of the fruit was made from specimens which had been grown in the Meehan Nurseries in Germantown, Pennsylvania. These are 4-winged, but in pressing them for the herbarium the alternate wings were brought so close together that the fruit appeared 2-winged. This mistake was copied by Small in his Flora of the Southeastern States and has increased the difficulty of obtaining information in regard to the habit and distribution of Michaux's plant. In the herbarium of the Arboretum there are photographs of Michaux's two specimens collected near Matansas. After these the oldest specimen I have seen was collected by W. M. Canby in March, 1869, at Hibernia, Florida; in March, 1884, flowers were collected for John Donnell Smith from a tree on the border of a swamp of the St. John's River, half a mile north of Magnolia, Florida, and in March two years later he collected flowers from the same tree; in 1895 it was collected in fruit by G. V. Nash (No. 2373) at River Junction, Florida; and two years later in the same region by collectors of the Biltmore Herbarium (No. 520b). The other material which I have seen has been collected for the Arbore-

tum by T. G. Harbison from 1913–1920. A short description as of *H. parviflora* is appended.

Leaves oblong-ovate to slightly obovate or elliptic, abruptly long-pointed or acuminate at apex, narrow and cuneate or rounded at base, finely serrate with minute gland-tipped teeth, densely covered with hoary tomentum when they unfold, becoming glabrous or nearly glabrous, 7 or 8 cm. long and 2.5–3 cm. wide, and on vigorous leading shoots up to 16 cm. long and 6 cm. wide; petioles hoary tomentose when they first appear, becoming glabrous, 6–10 mm. in length. Flowers at the end of March or early in April, 8–12 mm. long, on pedicels more or less densely villose-pubescent with white hairs, becoming nearly glabrous, 8–10 mm. in length; calyx densely hoary-tomentose or rarely villose-pubescent; corolla 9–12 mm. in diameter. Fruit ripening in August and September, clavate, gradually narrowed into the long-stipitate base, 2–3.5 cm. long, 4-winged, the wings of equal width, or occasionally with the alternate wings narrower than the others.

A slender tree 8–10 mm. high, with a trunk 20–25 cm. in diameter, covered with dark brown nearly black thick bark divided by deep longitudinal furrows into narrow rounded rough ridges, small light brown slightly ridged branches and slender branchlets hoary-tomentose; when they first appear, becoming pubescent or nearly glabrous by the end of their first season; or a shrub sometimes only a few feet high.

FLORIDA. St. John's County, Matansas, *A. Michaux*. Clay County: Hibernia, *W. M. Canby*, March, 1867; wood ravines head of Pellicaris Creek, Miller Lewis, June and September, 1884; *John Donnell Smith*, borders of swamp on St. John's River, half a mile north from Magnolia, March 2, 1886; Magnolia Springs, *T. G. Harbison* (No. 5), 1913, April 8, 1920. Gadsden County, near Chattahoochee, *C. V. Nash* (No. 2373), August 10 and 11, 1895; Biltmore Herb. (No. 520b), March 12, 1897; *T. G. Harbison*, March 26 and September 21, 1914. Jackson County, *T. G. Harbison*, September 18, 1916; Mariana, March 21, 1917. Lafayette County, Old Town, *T. G. Harbison*, September 13, 1918, March 30 and 31, 1920.

ALABAMA. Lee County, Auburn, *T. G. Harbison*, April, 1912.

MISSISSIPPI. Jones County, Laurel, *T. G. Harbison*, March 26, 1917.

OKLAHOMA. Le Flore County, edge of thicket in Creek Valley, near Page, *O. W. Blakley* (No. 3441 in Herb. Bot. Gard. Mo.), April 15, 1915.

A specimen collected by T. G. Harbison in April, 1914, in South Carolina opposite the city of Augusta, Georgia, and a specimen collected by him from a shrub growing by the side of the road leading from Augusta to the "Old Ferry" are perhaps of this species. The flowers are only 1 cm. long, and the pedicels are villose, but the calyx is nearly glabrous. Fruit of these plants has not been collected.

Fraxinus caroliniana var. **Rehderiana,** n. var.—*Fraxinus Rehderiana* Lingelsheim in Engler, *Pflanzenr.* iv.-243, 42 (1920).

Differing from the type in the pubescent lower surface of the leaves and in the dense pubescence of the branchlets.

Lingelsheim suggests that *F. Rehderiana* may be a hybrid between *F. caroliniana* and *F. pennsylvanica* but there is no appearance of the latter

in the leaves or fruit of his type specimen collected in southeastern Virginia, a region where *F. pennsylvanica* does not occur. Other specimens of *F. caroliniana* with pubescent leaflets and branchlets in the herbarium of the Arboretum were collected beyond the region inhabited by *F. pennsylvanica* and are referred to this variety

VIRGINIA. Isle of Wight County, banks of Blackwater River near Zuni, *A. Rehder* (type), August 19, 1905.

FLORIDA. Taylor County, swamp near the coast, *T. G. Harbison*, September 8, 1918.

LOUISIANA. Tangipahoa Parish; Ponchatoula, *C. S. Sargent*, March 29, 1917, near Hammond, *C. S. Sargent*, March 30, 1917.

NEW SPECIES, VARIETIES AND COMBINATIONS FROM THE HERBARIUM AND THE COLLECTIONS OF THE ARNOLD ARBORETUM [1]

ALFRED REHDER

VITACEAE

Ampelopsis Michx.

Ampelopsis brevipedunculata Koehne, Deutsch. Dendr. 400 (1893),—*Cissus* (*Ampelopsis*) *brevipedunculata* Maximowicz in Mém. Acad. Sci. Div. Sav. St. Pétersbourg, IX. 68 (Prim. Fl. Amur.) (1859).—*Cissus humulifolia* β. *brevipedunculata* Regel in Mém. Acad. Sci. St. Pétersbourg, sér. 7, IV. No. 4, p. 35 (Tent. Fl. Ussur) (1861). — *Vitis heterophylla* α. *cordata* Regel in Gartenfl. XXII. 197 (1873), excl. planta americana. — *A. heterophylla* var. β. *amurensis* Planchon in De Candolle, Monog. Phan. V. 456 (1887). — Rehder in Bailey, Stand. Cycl. Hort. I. 278, fig. 191 (1914). — *A. heterophylla* var. γ. *Lavallei* Planchon, l. c. (1887). — *Vitis brevipedunculata* Dippel, Handb. Laubholzk. II. 564, fig. 267 (1892). — *Vitis amurensis* hort. ex Dippel, l. c. (1892), pro synon., non Rupr.

The plant originally described by Thunberg as *Vitis heterophylla* belongs to the genus Ampelopsis and is generally known as *A. heterophylla* Sieb. & Zucc., but unfortunately this name cannot be retained, on account of the older *A. heterophylla* Blume (Bijdr. 194 [1825]) which is under the genus Ampelopsis the valid name of the plant named by Planchon *Landukia Landuk* (*Cissus Landuk* Hassk., *Vitis Landuk* Miq.) and by Gagnepain *Parthenocissus Landuk*,[2] but for which the correct combination under

[1] Continued from p. 128.

[2] As Gagnepain has shown (in Bull. Soc. Hist. Nat. Autun, XXIV. 10 [1911]), the genus Landukia cannot be generically separated from Parthenocissus and he, therefore, unites the two genera choosing the name Parthenocissus for the group. Though Landukia has page priority over Parthenocissus, it should not be used as the name for the group, as the International Rules of Botanical Nomenclature do not recognize page priority, but rule, according to article 46, that an author who unites two or more genera of the same date may choose, and that his choice cannot be modified by subsequent authors. Moreover, Parthenocissus is a nomen conservandum and should be retained "en tous cas."